

REMARKS/ARGUMENTS

Favorable consideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-3 and 17-23 are presently pending in this application, Claim 1 having been amended and Claims 18-23 having been newly added by the present amendment.

In the outstanding Office Action, Claims 1 and 2 were rejected under 35 U.S.C. §102(b) as being anticipated by JP 2002-226871 (hereinafter “JP ‘871”); and Claims 1-3 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over JP ‘871.

Claim 1 has been amended and Claims 18-23 have been added herein. These amendments and additions in the claims are believed to find support in the specification, claims and drawings as originally filed, for example, the specification: page 11, line 14, to page 12, line 10; page 10, lines 19-21; and page 6, lines 4-9, and no new matter is believed to be added thereby. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work in a joint effort to derive mutually satisfactory claim language.

Before addressing the rejection based on the cited reference, a brief review of Claim 1 as currently amended is believed to be helpful. Claim 1 is directed to a process for decomposing a polymer into a monomer or oligomer, and recites “hydrolyzing a polymer with sub- or supercritical water, at least a part of the polymer being a polymer comprising a constitutional unit derived from an organic acid in the molecular structure, and the polymer being contacted with sub- or supercritical water in the presence of a water-insoluble base; and recovering a monomer or oligomer obtained by decomposition of the polymer, wherein the water-insoluble base comprises at least one compound selected from the group consisting of CaCO₃, BaCO₃ and Ca(OH)₂.” By hydrolyzing the polymer as such, the side reaction due to an organic acid can be suppressed, the decomposition of an organic acid itself can be

inhibited, and a reusable monomer or oligomer, *e.g.*, an organic acid and an alcohol, can be produced and recovered in a high yield.¹

It is respectfully submitted that JP '871 does not teach or suggest "recovering a monomer or oligomer obtained by decomposition of the polymer" as recited in amended Claim 1. On the other hand, JP '871 describes a process in which plastics is gasified by the decomposition of the plastics with high-temperature and high-pressure water and gaseous substances are obtained at 25° C under the atmospheric pressure. The JP '871 process *requires inorganic oxides and/or inorganic hydroxides* in order to avoid the wear of the reactor caused by halogens from the decomposition of halogen-containing plastics,² and states that the presence of inorganic oxides and/or inorganic hydroxides such as NaOH and KOH is necessary during the reaction.³ It is believed that the use of a readily water-soluble base such as NaOH and KOH as described in JP '871 makes the recovery of an organic acid in high yield impossible.⁴ Furthermore, the amount of Ca(OH)₂ in Examples of JP '871 is only 5% by weigh relative to the amount of polystyrene or polyethylene, clearly not to recover a reusable monomer or oligomer as recited in Claim 1 and as discussed above. To recover a monomer or oligomer obtained by the decomposition of the polymer in high yield, the amount of the water-insoluble base to be used in a process is significantly higher, for example, preferably 50 to 200 parts by weight relative to 100 parts by weight of the polymer. Therefore, the subject matter recited in amended Claim 1 is believed to be distinguishable over JP '871 and is not anticipated thereby. Moreover, because JP '871 fails to disclose the subject matter recited in Claim 1, its teachings are not believed to render the process recited in amended Claim 1.

¹ Specification, page 7, lines 16 to 21, and the Examples.

² See, JP '871, paragraph 0017.

³ See JP '871, paragraphs 0017 and 0018.

⁴ See, for example, page 8, lines 17-25, as well as Tables 1 and 2.

Likewise, Claim 19 recites: "hydrolyzing a polymer with sub- or supercritical water, at least a part of the polymer being a polymer comprising a constitutional unit derived from an organic acid, the polymer being contacted with sub- or supercritical water in the presence of a water-insoluble base, the water-insoluble base being in an amount sufficient such that hydrolysis dominates over pyrolysis in decomposition of the polymer; recovering a monomer or oligomer obtained by the decomposition of the polymer, wherein the water-insoluble base comprises at least one compound selected from the group consisting of CaCO₃, BaCO₃ and Ca(OH)₂" and is believed to be also distinguishable over JP '871.

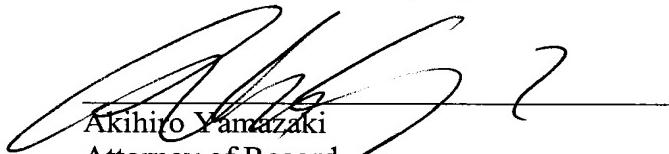
For the foregoing reasons, Claims 1 and 19 are believed to be allowable.

Furthermore, since Claims 2, 3, 17, 18 and 20-23 depend from either Claim 1 or 19, substantially the same arguments set forth above also apply to these dependent claims. Hence, Claims 2, 3, 17, 18 and 20-23 are believed to be allowable as well.

In view of the amendments and discussions presented above, Applicants respectfully submit that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

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